LISTING OF CLAIMS

1. (Original) An electrically conductive elastic composite yarn comprising: at least one elastic member having a relaxed unit length L and a drafted length of (NxL), wherein N is in the range of about 1.0 to about 8.0; and at least one conductive covering filament surrounding the elastic member, the conductive covering filament having a length that is greater than the drafted length of the elastic member, such that substantially all of an elongating stress imposed on the composite yarn is carried by the elastic member.

2. (Original) The electrically conductive elastic composite yarn of claim 1 wherein N is in the range of about 1.2 to about 5.0.

3. (Original) The composite yarn of claim 1 wherein the at least one conductive covering filament is a metallic wire.

4. (Original) The composite yarn of claim 3 wherein the metallic wire has an insulating coating thereon.

5. (Original) The composite yarn of claim 1 wherein the elastic member has a predetermined elastic limit, the conductive covering filament has a predetermined break elongation, the composite yarn has an available elongation range that is greater than the break elongation of the conductive covering filament and less than the elastic limit of the elastic member.

6. (Original) The composite yarn of claim 1 wherein the elastic member has a predetermined elastic limit, the conductive covering filament has a predetermined break elongation, and the composite yarn has an elongation range from about 10% to about 800%.

7. (Original) The composite yarn of claim 1 wherein the conductive covering filament having a predetermined breaking strength, and wherein the composite yarn has a breaking strength greater than the breaking strength of the conductive covering filament.

8. (Withdrawn) The composite yarn of claim 1 wherein the at least one conductive covering filament itself comprises a non-conductive inelastic synthetic polymer yarn having a metallic wire thereon.

9. (Original) The composite yarn of claim 1 wherein the at least one conductive covering filament is wrapped in turns about the elastic member, such that for each relaxed unit length (L) of the elastic member there is at least one (1) to about 10,000 turns of the conductive covering filament.

10. (Original) The composite yarn of claim 1 wherein the at least one conductive covering filament is sinuously disposed about the elastic member such that for each relaxed unit length (L) of the elastic member there is at least one period of sinuous covering by the conductive covering filament.

11. (Original): The composite yarn of claim 1 further comprising a second conductive covering filament surrounding the elastic member, the second conductive covering filament having a length that is greater than the drafted length of the elastic member.

12. (Original) The composite yarn of claim 11 wherein the second conductive covering filament is a metallic wire.

13. (Withdrawn) The composite yarn of claim 11 wherein the second conductive covering filament itself comprises a non-conductive inelastic synthetic polymer yarn having a metallic wire thereon.

14. (Original) The composite yarn of claim 11 wherein the second conductive covering filament is wrapped in turns about the elastic member, such that for each relaxed unit length of the core there is at least one (1) to about 10,000 turns of the second conductive covering filament.

15. (Original) The composite yarn of claim 11 wherein the second conductive covering filament is sinuously disposed about the elastic member such that for each

relaxed unit length (L) of the elastic member there is at least one period of sinuous covering by the second conductive covering filament.

16. (Original) The composite yarn of claim 1 further comprising: a stress-bearing member surrounding the elastic member, and wherein the stress-bearing member has a total length less than the length of the conductive covering filament and greater than, or equal to, the drafted length (NxL) of the elastic member, such that a portion of the elongating stress imposed on the composite yarn is carried by the stress-bearing member.

17. (Original) The composite yarn of claim 16 wherein the stress-bearing member is made from an inelastic synthetic polymer yarn.

18. (Original) The composite yarn of claim 16 wherein the stress-bearing member is wrapped in turns about the elastic member such that for each relaxed unit length (L) of the elastic member there is at least one (1) to about 10,000 turns of stress-bearing member.

19. (Original) The composite yarn of claim 16 wherein the stress-bearing member is sinuously disposed about the elastic member such that for each relaxed unit length (L) of the elastic member there is at least one period of sinuous covering by the stress-bearing member.

20. (Original) The composite yarn of claim 16 wherein the stress-bearing member further comprises: a second inelastic synthetic polymer yarn surrounding the elastic member, and wherein the second inelastic synthetic polymer yarn has a total length less than the length of the conductive covering filament and greater than, or at most equal to, the drafted length of (NxL) of the elastic member, such that a portion of the elongating stress imposed on the composite yarn is carried by the second inelastic synthetic polymer yarns.

21. (Original) The composite yarn of claim 20 wherein the second inelastic synthetic polymer yarn is wrapped in turns about the elastic member such that for each

relaxed unit length (L) of the elastic member there is at least one (1) to about 10,000 turns of each inelastic synthetic polymer yarn.

22. (Original) The composite yarn of claim 20 wherein the second inelastic synthetic polymer yarns is sinuously disposed about the elastic member such that for each relaxed unit length (L) of the elastic member there is at least one period of sinuous covering by each inelastic synthetic polymer yarn.

23. (Withdrawn) A method for forming an electrically conductive elastic composite yarn comprising: an elastic member having a relaxed length; and at least one conductive covering filament surrounding the elastic member, the method comprising the steps of: drafting an elastic member; placing a conductive covering filament substantially parallel to and in contact with the drafted length of the elastic member; and thereafter allowing the elastic member to relax thereby to entangle the elastic member and the conductive covering filament.

24. (Withdrawn) The method of claim 23 wherein the electrically conductive elastic composite yarn further comprises a second conductive covering filament surrounding the elastic member, the method further comprising the steps of: placing a second conductive covering filament substantially parallel to and in contact with the drafted length of the elastic member; and thereafter allowing the elastic member to relax thereby to entangle the second conductive covering filament with the elastic member and the first conductive covering filament.

25. (Withdrawn) The method of claim 24 wherein the electrically conductive elastic composite yarn further comprises an inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: placing an inelastic synthetic polymer yarn substantially parallel to and in contact with the drafted length of the elastic member; and thereafter allowing the elastic member to relax thereby to entangle the inelastic synthetic polymer yarn with the elastic member and the first conductive covering filament.

26. (Withdrawn) The method of claim 25 wherein the electrically conductive elastic composite yarn further comprises a second inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: placing a second inelastic synthetic polymer yarn substantially parallel to and in contact with the drafted length of the elastic member; and thereafter allowing the elastic member to relax thereby to entangle the second inelastic synthetic polymer yarn with the elastic member, the conductive covering filament and the first inelastic synthetic polymer yarn.

27. (Withdrawn) A method for forming an electrically conductive elastic composite yarn comprising: an elastic member having a relaxed length; and at least one conductive covering filament surrounding the elastic member the method comprising the steps of: drafting an elastic member; twisting the conductive covering filament with the drafted elastic member; and thereafter allowing the elastic member to relax.

28. (Withdrawn) The method of claim 27 wherein the electrically conductive elastic composite yarn further comprises a second conductive covering filament surrounding the elastic member, the method further comprising the steps of: twisting the second conductive covering filament with the drafted elastic member and the first conductive covering filament; and thereafter allowing the elastic member to relax.

29. (Original) The method of claim 28 wherein the electrically conductive elastic composite yarn further comprises an inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: twisting the inelastic synthetic polymer yarn with the elastic member and the conductive covering filament; and thereafter allowing the elastic member to relax.

30. (Original) The method of claim 29 wherein the electrically conductive elastic composite yarn further comprises a second inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: twisting the second inelastic synthetic polymer yarn with the elastic member, the conductive covering filament and the first inelastic synthetic polymer yarn; and thereafter allowing the elastic member to relax.

31. (Original) A method for forming an electrically conductive elastic composite yarn comprising: an elastic member having a relaxed length; and at least one conductive covering filament surrounding the elastic member the method comprising the steps of: drafting the elastic member: wrapping the conductive covering filament about the drafted length of the elastic member; and thereafter allowing the elastic member to relax.

32. (Original) The method of claim 31 wherein the electrically conductive elastic composite yarn further comprises a second conductive covering filament surrounding the elastic member, the method further comprising the steps of: wrapping a second conductive covering filament about the drafted length of the elastic member and the first conductive covering filament; and thereafter allowing the elastic member to relax.

33. (Original) The method of claim 31 wherein the electrically conductive elastic composite yarn further comprises an inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: wrapping an inelastic synthetic polymer yarn about the drafted length of the elastic member and the conductive covering filament; and thereafter allowing the elastic member to relax.

34. (Original) The method of claim 33 wherein the electrically conductive elastic composite yarn further comprises a second inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: wrapping a second inelastic synthetic polymer yarn about drafted length of the elastic member, the conductive covering filament and the first inelastic synthetic polymer yarn; and thereafter allowing the elastic member to relax.

35. (Original) A method for forming an electrically conductive elastic composite yarn comprising: an elastic member having a relaxed length; and at least one conductive covering filament surrounding the elastic member, the method comprising the steps of: forwarding the elastic member through an air jet; within the air jet, covering the elastic member with the conductive covering filament; and thereafter allowing the elastic member to relax.

36. (Original) The method of claim 35 wherein the electrically conductive elastic composite yarn comprises a second conductive covering filament surrounding the elastic member, the method further comprising the steps of: within the air jet, covering the elastic member and the first conductive covering filament with a second conductive covering filament; and thereafter allowing the elastic member to relax.

37. (Original) The method of claim 35 wherein the electrically conductive elastic composite yarn further comprises an inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: within the air jet, covering the elastic member and the conductive covering filament with an inelastic synthetic polymer yarn; and thereafter allowing the elastic member to relax.

38. (Original) The method of claim 37 wherein the electrically conductive elastic composite yarn further comprises a second inelastic synthetic polymer yarn surrounding the elastic member, the method further comprising the steps of: within the air jet, covering the elastic member, the conductive covering filament and the first inelastic synthetic polymer yarn with a second inelastic synthetic polymer yarn; and thereafter allowing the elastic member to relax.

39. (Original) A fabric comprising a plurality of electrically conductive elastic composite yarns, wherein each electrically conducting elastic composite yarn comprises: an elastic member having a relaxed unit length L and a drafted length of (NxL), wherein N is in the range of about 1.0 to about 8.0; and at least one conductive covering filament surrounding the elastic member, the conductive covering filament having a length that is greater than the drafted length of the elastic member, such that substantially all of an elongating stress imposed on the composite yarn is carried by the elastic member.

40. (Original) The fabric of claim 39 wherein one or more of the composite yarns further comprise: an inelastic synthetic polymer yarn surrounding the elastic member, and wherein the inelastic synthetic polymer filament yarn has a total length less than the length of the conductive covering filament, such that a portion of the elongating stress imposed on the composite yarn is carried by the inelastic synthetic polymer yarn.